



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/874,790 | 06/04/2001 | Jody L. Terrill | 10002274-1 | 5821 |

7590 11/30/2006

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

JACOBS, LASHONDA T

ART UNIT PAPER NUMBER

2157

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------------|---|--|
| Office Action Summary | Application No. 09/874,790 | Applicant(s) TERRILL, JODY L. | |
| | Examiner LaShonda T. Jacobs | Art Unit 2157 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2006.
- 2a) ☒ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This is Final Office Action in response to Applicant's Amendment/Request for Reconsideration filed on August 30, 2006. Claims 1-27 are presented for further examination.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim **18** is rejected under 35 U.S.C. 102(e) as being anticipated by Shiohara (U.S. Pat. No. 6,822,754).

As per claim **18**, Shiohara disclose a method for adapting the polling rate for collecting job information from a device, the method comprising the steps of:

- (a) querying a device for device and/or job information according to a polling rate (col. 5, lines 50-66);
- (b) adjusting the polling rate depending upon the device and/or job information (col. 5, lines 60-67 and col. 6, lines 1-14); and

Art Unit: 2157

(c) repeating steps (a) and (b) until a job associated with the device and/or job information is completed (col. 5, lines 50-66).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Shiohara in view of Crittenden et al (hereinafter, "Crittenden", U.S. Pat. No. 5,566,351).

As per claims 1, 26 and 27, Shiohara discloses a method and computer program for adapting the polling rate for collecting job information from a device, the method comprising the steps of:

- querying a device for job information (col. 5, lines 50-66); and
- determining a state of job progress from the job information (col. 5, lines 8-15; Shiohara discloses the number of print pages of unprocessed print jobs registered in the corresponding printer. Therefore, Shiohara discloses determining a state of job progress from the job information (number of pages printed) according to Applicant's example of this limitation on page 3, lines 21-24 of specification).

However, Shiohara does not explicitly disclose:

- setting a delay time depending upon the state of job progress; and
- querying the device for job information after the delay time has passed.

Crittenden discloses an adaptive polling system comprising:

- setting a delay time depending upon the state of job progress (col. 7, lines 38-46 and col. 9, lines 26-35); and
- querying the device for job information after the delay time has passed (col. 9, lines 26-35 and col. 12, lines 18-52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Crittenden's teachings of an adaptive polling system with Shiohara, for the purpose of a dynamically changing delay when a printer is operating rapidly throughput delays are minimized and allowing peripheral devices to exhibit lower system loading as well as improving data throughput (col. 3, lines 63-67 and col. 4, lines 1-5). Thus Shiohara provides the motivation to combine by utilizing a print system as well as improving printing efficiency among printers connected to a network (Shiohara, abstract).

As per claim 2, Shiohara discloses:

- wherein an application-layer protocol is employed to poll the device (col. 4, lines 8-20).

As per claim 3, Shiohara discloses:

- wherein a network management protocol request is employed to poll the device (col. 4, lines 8-20).

As per claim 4, Shiohara discloses:

- wherein a Simple Network Management Protocol (SNMP)-enabled application is employed to poll the device (col. 4, lines 8-20).

As per claim 5, Shiohara discloses:

- wherein the device is a network-connected device (col. 3, lines 43-48).

Art Unit: 2157

As per claim 6, Shiohara discloses:

- wherein the device is a printer (col. 3, lines 43-48).

As per claim 7, Shiohara discloses:

- wherein the job information comprises print job information (col. 4, lines 1-20).

As per claim 8, Shiohara discloses the invention substantially as claims discussed above.

However, Shiohara does not explicitly disclose:

- wherein the delay time is set to be no less than an acceptable delay time.

Crittenden discloses an adaptive polling system comprising:

- wherein the delay time is set to be no less than an acceptable delay time (col. 9, lines 6-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Crittenden's teachings of an adaptive polling system with Shiohara, for the purpose of a dynamically changing delay when a printer is operating rapidly throughput delays are minimized and allowing peripheral devices to exhibit lower system loading as well as improving data throughput (col. 3, lines 63-67 and col. 4, lines 1-5). Thus Shiohara provides the motivation to combine by utilizing a print system as well as improving printing efficiency among printers connected to a network (Shiohara, abstract):

As per claim 9, Shiohara disclose:

- adjusting an expected job completion time depending upon the state of job progress (col. 5, lines 60-67 and col. 6, lines 1-14).

However, Shiohara does not explicitly disclose:

- determining the delay time from the expected job completion time.

Art Unit: 2157

Crittenden discloses an adaptive polling system comprising:

- determining the delay time from the expected job completion time (col. 7, lines 38-46 and col. 9, lines 26-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Crittenden's teachings of an adaptive polling system with Shiohara, for the purpose of a dynamically changing delay when a printer is operating rapidly throughput delays are minimized and allowing peripheral devices to exhibit lower system loading as well as improving data throughput (col. 3, lines 63-67 and col. 4, lines 1-5). Thus Shiohara provides the motivation to combine by utilizing a print system as well as improving printing efficiency among printers connected to a network (Shiohara, abstract).

As per claim 10, Shiohara discloses the invention substantially as claims discussed above.

However, Shiohara does not explicitly disclose:

- wherein the delay time is set to be less than the expected job completion time.

Crittenden discloses an adaptive polling system comprising:

- wherein the delay time is set to be less than the expected job completion time (col. 7, lines 38-46 and col. 9, lines 26-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Crittenden's teachings of an adaptive polling system with Shiohara, for the purpose of a dynamically changing delay when a printer is operating rapidly throughput delays are minimized and allowing peripheral devices to exhibit lower system loading as well as improving data throughput (col. 3, lines 63-67 and col. 4, lines 1-5). Thus

Art Unit: 2157

Shiohara provides the motivation to combine by utilizing a print system as well as improving printing efficiency among printers connected to a network (Shiohara, abstract).

As per claim 11, Shiohara discloses the invention substantially as claims discussed above.

However, Shiohara does not explicitly disclose:

- wherein the delay time is set to be approximately one half of the expected job completion time.

Crittenden discloses an adaptive polling system comprising:

- wherein the delay time is set to be approximately one half of the expected job completion time (col. 9, lines 6-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Crittenden's teachings of an adaptive polling system with Shiohara, for the purpose of a dynamically changing delay when a printer is operating rapidly throughput delays are minimized and allowing peripheral devices to exhibit lower system loading as well as improving data throughput (col. 3, lines 63-67 and col. 4, lines 1-5). Thus Shiohara provides the motivation to combine by utilizing a print system as well as improving printing efficiency among printers connected to a network (Shiohara, abstract).

As per claim 12, Shiohara discloses the invention substantially as claims discussed above.

However, Shiohara does not explicitly disclose:

- wherein the delay time is set to be within a range of values bounded by a minimum delay time and a maximum delay time.

Crittenden discloses an adaptive polling system comprising:

- wherein the delay time is set to be within a range of values bounded by a minimum delay time and a maximum delay time (col. 10, lines 17-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Crittenden's teachings of an adaptive polling system with Shiohara, for the purpose of a dynamically changing delay when a printer is operating rapidly throughput delays are minimized and allowing peripheral devices to exhibit lower system loading as well as improving data throughput (col. 3, lines 63-67 and col. 4, lines 1-5). Thus Shiohara provides the motivation to combine by utilizing a print system as well as improving printing efficiency among printers connected to a network (Shiohara, abstract).

As per claim 13, Shiohara discloses a method for adapting the polling rate for collecting job information from a device, the method comprising the steps of:

- querying a device for information (col. 5, lines 50-66); and
- determining an expected job completion time from the information (col. 5, lines 60-67 and col. 6, lines 1-14).

However, Shiohara does not explicitly disclose:

- setting a delay time depending upon the expected job completion time; and
- querying the device for job information after the delay time has passed.

Crittenden discloses an adaptive polling system comprising:

- setting a delay time depending upon the expected job completion time (col. 7, lines 38-46 and col. 9, lines 26-35); and
- querying the device for job information after the delay time has passed (col. 9, lines 26-35 and col. 12, lines 18-52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Crittenden's teachings of an adaptive polling system with Shiohara, for the purpose of a dynamically changing delay when a printer is operating rapidly throughput delays are minimized and allowing peripheral devices to exhibit lower system loading as well as improving data throughput (col. 3, lines 63-67 and col. 4, lines 1-5). Thus Shiohara provides the motivation to combine by utilizing a print system as well as improving printing efficiency among printers connected to a network (Shiohara, abstract).

As per claim **14**, Shiohara discloses:

- wherein the information comprises a rated speed of the device (col. 6, lines 1-14).

As per claim **15**, Shiohara discloses:

- wherein the rated speed is a rated engine speed (col. 6, lines 1-14).

As per claim **16**, Shiohara discloses:

- wherein the rated speed is a rated print speed (col. 6, lines 1-14).

As per claim **17**, Shiohara disclose:

- wherein the expected job completion time is a best case job completion time (col. 5, lines 60-67 and col. 6, lines 1-14).

As per claim **19**, Shiohara discloses the invention substantially as claims discussed above.

However, Shiohara does not explicitly disclose:

- wherein the polling rate is adjusted such that a delay time until a next query to the device is no less than an acceptable delay time.

Crittenden discloses an adaptive polling system comprising:

- wherein the polling rate is adjusted such that a delay time until a next query to the device is no less than an acceptable delay time (col. 7, lines 38-46 and col. 9, lines 26-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Crittenden's teachings of an adaptive polling system with Shiohara, for the purpose of a dynamically changing delay when a printer is operating rapidly throughput delays are minimized and allowing peripheral devices to exhibit lower system loading as well as improving data throughput (col. 3, lines 63-67 and col. 4, lines 1-5). Thus Shiohara provides the motivation to combine by utilizing a print system as well as improving printing efficiency among printers connected to a network (Shiohara, abstract).

As per claim 20, Shiohara discloses the invention substantially as claims discussed above.

However, Shiohara does not explicitly disclose:

- wherein the polling rate is adjusted such that a delay time until a next query to the device is set to be within a range of values bounded by a minimum delay time and a maximum delay time.

Crittenden discloses an adaptive polling system comprising:

- wherein the polling rate is adjusted such that a delay time until a next query to the device is set to be within a range of values bounded by a minimum delay time and a maximum delay time (col. 10, lines 17-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated Crittenden's teachings of an adaptive polling system with Shiohara, for the purpose of a dynamically changing delay when a printer is operating

Art Unit: 2157

rapidly throughput delays are minimized and allowing peripheral devices to exhibit lower system loading as well as improving data throughput (col. 3, lines 63-67 and col. 4, lines 1-5). Thus Shiohara provides the motivation to combine by utilizing a print system as well as improving printing efficiency among printers connected to a network (Shiohara, abstract).

As per claim **21**, Shiohara discloses wherein the device information comprises:

- a function performance rating (col. 11, lines 18-27).

As per claim **22**, Shiohara discloses wherein the function performance rating is:

- a printing speed rating (col. 6, lines 1-14).

As per claim **24**, Shiohara discloses wherein the job information comprises:

- job progress information (col. 4, lines 4-7).

As per claim **24**, Shiohara discloses wherein the job progress information comprises:

- print job progress information (col. 5, lines 16-29).

As per claim **25**, Shiohara discloses wherein the job information comprises:

- print job information (col. 6, lines 52-57).

Response to Arguments

3. Applicant's arguments filed August 30, 2006 have been fully considered but they are not persuasive.

The Office Notes the following arguments:

a. Applicant respectfully submits that an indication that a device is “not ready” to receive data does not constitute “determining a state of job progress”.

Art Unit: 2157

- b. Crittenden does not disclose or suggest determining an expected job completion time and using this to determine a delay time for polling a device.
- c. Shiohara and Crittenden do not disclose or suggest “setting a delay time depending upon the state of the job progress; and querying the device for job information after the delay time has passed.
- d. Shiohara and Crittenden do not disclose or suggest adjusting a polling rate depending upon job progress information.

In response to:

(a) Applicant argues that an indication that a device is “not ready” to receive data does not constitute “determining a state of job progress.” However, the Examiner disagrees. Shiohara teaches print processing information that contains at least the number of print pages of unprocessed prints jobs registered in the corresponding printer in which a print wait time can be predict based on the number of pages printed (col. 5, lines 8-19 and col. 6, lines 52-57).

Applicant also states on page 3, lines 21-24 of the specification that an example of “determining a state of job progress” is the “number of pages printed.” Therefore, Shiohara discloses, “determining a state of job progress.”

(b) Applicant argues that Crittenden does not disclose or suggest determining an expected job completion time and using this to determine a delay time for polling a device. However, the Examiner disagrees. Crittenden discloses an adaptive polling system in which a delay is set for the data to be processed by the peripheral device (e.g. printer). After the delay has passed, the peripheral device is ready to process the next data (col. 7, lines 38-46, col. 9, lines 26-35 and col.

Art Unit: 2157

10, lines 40-59). Therefore, Crittenden does disclose determining an expected job completion time and using this to determine a delay time for polling a device.

(c)-(d), Applicant argues that Shiohara and Crittenden do not disclose or suggest setting a delay time depending upon the state of the job progress; querying the device for job information after the delay time has passed; and adjusting a polling rate depending upon job progress information.

However, Examiner disagrees. Shiohara discloses a print data generation system for selecting an appropriate printer or printers from among printers connected to a network to improve printing efficiency in which the print processing information contains at least the number of print pages of unprocessed print jobs registered in the corresponding printer in which a print wait time can be predicted based on the number of pages printed. On the hand, Crittenden discloses an adaptive polling system in which a delay is set for the data to be processed by the peripheral device (e.g. printer). After the delay has passed, the peripheral device is ready to process the next data.

Therefore, the Shiohara and Crittenden does disclose setting a delay time depending upon the state of the job progress; querying the device for job information after the delay time has passed; and adjusting a polling rate depending upon job progress information.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

Art Unit: 2157

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

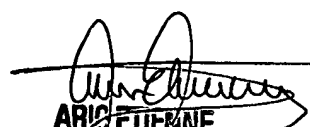
Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaShonda T. Jacobs whose telephone number is 571-272-4004. The examiner can normally be reached on 8:30 A.M.-5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LaShonda T Jacobs
Examiner
Art Unit 2157

Itj
November 21, 2006


ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100